Medical College of the
State of South Carolina
Charleston, S. C.

The Journal OF THE South Carolina Medical Association

VOL. XV. GREENVILLE, S. C., AUGUST, 1919 NO. 8

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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.
Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

THE HOSPITAL OUTLOOK IN SOUTH CAROLINA.

One of the marked activities since the war came to a close is the improvement of the hospital situation in our State. Quite a number of hospitals have been reorganized and new ones are being erected in various parts of the State. Among the number carrying advertisements in the Journal are the Chick Springs Sanitarium and Steedly Clinic; The Chester Sanatorium, The Pryor Hospital. We may mention also recent hospital organizations at Abbeville, Spartanburg, Orangeburg, Columbia and Union so that almost every county in the State now has access to a hospital within its own bounds.

Benedict College in Columbia announces the opening of a hospital for the colored race. Both the Columbia and Baptist Hospitals have organized Pathological and Bacteriological Departments with full time directors in charge we understand.

The Anderson County Hospital has also organized similar departments.

Other hospitals probably deserve mention in this regard but we have not the data at hand.

The purpose of this editorial is not so much to call attention to specific instances of hospital improvement as to emphasize the great importance of the hospital standardization movement now being actively waged throughout the country. We firmly believe that every community in our State should have a good hospital though it may be a small one in many cases, but we should not lose sight of the urgent necessity to place all of our hospitals

on as high a plane of scientific efficiency as possible. The State Medical Association has a committee on Hospital Standardization which will no doubt take active steps to forward the nation-wide movement now in full swing.

DISTRICT AND COUNTY SOCIETIES WAKING UP.

As predicted in one of our recent editorials the members of our State Medical Association might confidently expect a marked increase of interest in society matters. We are glad to announce that here is ample evidence to this effect. The Editor has attended several meetings and has found unusual enthusiasm manifest. We especially noted the keen interest taken in the affairs of the societies by the younger members who had recently been in service. We see no reason why the South Carolina Medical Association should not accomplish far more in the near future than has been done in the past.

DEATH OF DR. WALTER CHEYNE

In the death of Dr. Walter Cheyne of Sumter, the South Carolina Medical Association loses a very active member. During the early days of the reorganization Dr. Cheyne was a Councilor of the State Association, later becoming Secretary and an Associate Editor of the Journal. He was the first President of the Editors Association of the State Medical Journals. He was closely associated with the movement for giving his home town and county modern hospital advantages. In the latter months of the recent world war Dr. Cheyne was appointed by the President a member of the Advisory Board of his District.

ORIGINAL ARTICLES

ANEMIA IN CHILDHOOD.

By R. M. Pollitzer, Charleston, S. C.

IT is a well known fact that those things which are the commonest, excite the least attention. A case of Lethargic Encephalitis or Meningococcic Meningitis receives far more notice than one of Uncinariasis or Malaria. This is only natural of course, and yet because the vast majority of our patients suffer from the commoner ailments, in a way it is regrettable.

Anemia is seen so frequently that unless it is extreme or forced upon us we generally disregard it. Parents, too many of whom suffer under the impression that one is not sick unless forced to go to bed, rarely call in a physician because of this condition. Inasmuch as anemia is generally only a symptom-complex of some underlying disease it is a difficult matter to give any figures as to its occurrence. Nevertheless we know from experience that it is often encountered and usually not traced to its source.

The pathologist rather easily classifies the anemias according to the blood picture into the two main classes of Primary and Secondary or calls the former Pernicious. But from the clin-

Read before South Carolina Medical Association at Florence, S. C., April 15-16, 1919.

ical side where we ofte find that the pernicious type is secondary and that no cause can be ascribed to the secondary, it is far better to call the primary where no causitive factor is in evidence, cryotogenetic or hidden; and the secondary, symptomatic. As I shall show one of my cases which would come under the primary group as regards hematology, was really due to the hookworm. Another pernicious was symptomatic of malaria.

By anemia we mean a decrease in hemoglobin or in erythrocytes or more commonly in both. In the mildest types only the hemoglobin is affected. A marked decrease in the red is indicative of a more severe affection. In the so-called pernicious they are not uncommonly reduced below 1 million. Further the erythrocytes show changes in size, shape, staining properties and often are nucleated. An increase in the colorless cells (the leucocytes) is common, but occasionally there is a decrease, that is a leucopenia.

In general anemia is produced by one or more of the following causes: 1. poor nutrition, 2. acute infections, 3. chronic diseases especially syphilis and tuberculosis, 4. chronic poisoning as lead or arsenic, 5. hemorrhage, either a severe one or long continued frequent bleedings, 6, malignancy, and 7. animal parasities, as the malarial protozoan, the tape worm or the anchylostoma. Regardless of the exciting factor however, there are but two ways in which anemia can be induced. First insufficient production of blood, and second increased destruction of blood. The type due to animal parasites probably falls under both classes, while under the second comes anemia from inanition. This may be brought about by improper food, faulty digestion. or failure of assimilation. Taking all these facts into consideration we can readily see why anemia is so frequent and so severe in childhood. A great many cases undoubtedly are due to mal-nutrition. The blood making organs are severely affected by disease, and "the blood picture is a resultant of the injurious influences and the reactive capacity of the blood making organs." The severest types of anemia from malnutrition are encountered at the end of infancy (or rather from the seventh month to the second year) and at puberty. Hemoglobin which is the oxygen carrying and liberating compound of the erythrocyte has iron in its make-up. "The amount of iron in both cow's milk and human milk is insufficient for the needs of the growing infant," but Nature has deposited enough iron in the liver of the nursling to last until it can digest iron-containing foods. 100 gm. of dried milk contains only 3 milligrams of iron, but the same quantity of egg has about 20, and spinach 33.

The usual symptoms of anemia are well known. Along with the yellowish-pallor there is weakness, peevishness, loss of appetite, flabby muscles, poor heart action at times and in severe cases very commonly in infants there is some edema. Bronchitis is common. The blood shows either the picture of a pernicious or a secondary anemia. Because of the variety of the signs and symptoms, frequently the diagnosis is missed and the case erroneously labeled, endocarditis or nephritis or tuberculosis. Frequently the patient is fat. As a rule the examination of the blood is necessary for the diagnosis, though of course it is suspected generally during the physical examination.

The prognosis depends primarily on the cause and the extent of blood destruction. Mild cases under proper treatment show prompt and marked improvement. The severe persist for

months and may be fatal. But it is surprising to what a degree the anemia may have progressed and yet the patient recover. Usually where the hemoglobin is below 30, and the red corpuscles reduced over 1-2 the outlook is bad.

It is not necessary in discussing the treatment to tell you to cure the malaria or rid the patient of his hookworm or cure his syphilis, but I do believe that anemia due to malnutrition is often improperly treated or not treated at all. The best form of treatment from the patients standpoint is prevention. Mothers should be taught that an exclusive milk diet unduly prolonged is harmful. Under milk I include human, the cow's and the tin can's. The reasons for the continuance of milk after the first year are several, among them being that nursing is cheap, the baby's unwillingness to try new articles of food and the mother's lack of patience; or having allowed it to choose its own diet she has been scared back to milk by a convulsion following the ingestion of canned salmon or a banana. Physicians are notoriously lax in giving directions as to the diet of the infant and child and most mothers after an attempt to extract some information either ask advice of their neighbor or buy a book on the subject. The actual treatment of a case of anemia from malnutrition is not always easy, but the general principles are simple. Hygiene and diet are paramount. Drugs are but secondary. Along with the milk and carbohydrates there must go some extra protein and fat, and especially iron containing foods as spinach, beans, potatoes, carrots, egg, meat or meat juice, and also the fruit juices. Iron and arsenic by the mouth or hypodermically are helpful. In very severe or obstinate cases transfusion may be necessary.

As an illustration of what Anemia from Mulnutrition can do I present the following case-record:

Francis L. S. was seen first on April 2, 1918. His age was 15 months. He is a white male native of this State. Family History.—His parents are well and they have two other children who are in good health. There have been no miscarriages or still-births. No hereditary diseases admitted. Past History.—Full time pregnancy. Normal delivery. Breast-fed up to the present. At five and one-half months had whooping-cough. No other diseases. Present Illness.—For the past three or four months has gradually become pale and weak. Recently for a few days feeding was attempted, but it was unsuccessful. He nurses frequently throughout the day and night. He is very fretful. For some weeks the mouth has been quite sore. (On two occasions when asleep, seen from a short distance he appeared to be dead. The color of his skin was that of a corpse.) Physical Examination. —Extremely pale and flabby. Very weak, unable to sit up. Nervous system, negative. Heart, action rapid, sounds of poor quality, hemic murmur at base. Lungs, many diffuse coarse moist rales, no consolidation. Abdomen, no rigidity or tenderness, no masses or fluid made out. Liver and spleen considerably below costal arch. Eyes and ears negative. Bones, moderate radial epiphyseal enlargement, slight rosary. On admission to Baker Sanitarium the temperature was 100, pulse 140 and respiration 56. For some days later it averaged 100, 140 and 40. The urine contained albumin many hyaline and a few granular casts. On April 4, 1918, the blood examination report was as follows: Hemoglobin 15% (Dare) Reds 1,044,000 per cmm. Appearance, variations in shape, size and attaining affinity. One

small nucleated red cell seen. Color index 0.75. Leucocytes, 7,840 per cmm. Small lymphocytes 50.5, large 1.12, large mononuclears 7, polys 27.5, eosinophiles 2, and transitionals 0 5. 200 cells were counted and no parasites seen. The blood examination was made by Dr. F. B. Johnson of Charleston. To exclude the possibility of intestinal parasites the feces were examined on several occasions, but no worms or ova were found. Notwithstanding the unusual severity of the case, the diagnosis of Anemia from Malnutrition was made. Treatment was instituted at once. Weaning was ordered to be done at once but as a matter of fact it was not entirely completed for a week. First cow's milk was given in weak dilution then rapidly increased up to whole milk with the addition of sugar and arrowroot. Soon crackers, cereals, toast and beef juice were added. Orange juice was also promptly given. For 10 days all feedings had to be forced, as there was not only no appetite but a remarkably strong fight for a sick child. It generally required two or three people to get the food into the mouth and then to keep it there. I have often noticed that these anemic children who need food so badly, have an intense repugnance to it. It is an instance where nature is not a good guide. Iron citrate gr. ¼ was given hypodermically twice or three times a week for three weeks. I believe it is helpful in these cases. Fowlers solution gtt. ½ to 1 three times daily was also administered for some time. Early to stimulate an appetite, tr. of nux vomica and dilute hydrochloric acid were given. The following clinical notes may be of interest: April 4—Taking nourishment. Spleen very large. April 11—Color undoubtedly better. Less resistance made to feeding. April 13 — Now taking 520 calories per day. April 15—Pulse stays at 120. April 19 — Good color in cheeks. Does not fight feedings. Some appetite. Sleeps well. April 22—Weight 22½ lbs. Looks fairly well. All drugs omitted. Very hungry. Bright and active. His disposition has entirely changed for the better. The blood examination on that date, which was three weeks after my first visit, showed the hemoglobin to be 65% (Dare) an increase of 50% and the red cells to be 3,092,000, an increase of over 2,000,000, the color index being 1.00. On April 26 he was discharged apparently well excepting some pallor, and in reality markedly improved. Had his parents been able to have him remain here some weeks longer I am confident that the blood would have been perfectly normal. Since that time I have heard through a physician in his home town, that the improvement has been continuous. This report of a serious case shows at least that cure need not be despaired of even late, and further that the treatment is not too difficult to be within the reach of all.

Let me here briefly give the salient facts in the case of George M., a white boy of four years, who lived in Charleston. He was first seen at the Roper Hospital Sept. 3, 1918. And was under treatment until January 18, 1919, when he was discharged improved, but by no means well, because of the presence of many cases of influenza in the wards. Clinically he had the following signs and symptoms: Marked pallor, slight fever, slight dyspnea, rapid heart action with hemic murmur, albuminuria, and edema of the extremities. The feces repeatedly showed the presence of numerous hook-worms and their ova. His hemoglobin on entrance was 20% (Dare), the red count 1,060,000, and the leucocytes reduced to 6,800. In other words he was suffering from a severe anemia secondary

to Uncinariasis. He was treated with thymol and later oil of chenopodium. Many worms were killed and expelled, but nevertheless complete cure was not obtained. However on discharge the hemoglobin had increased to 38 and the erythrocytes to over three million. Right here permit me to state that in my opinion regardless of the drug used, heavy infections of hook-worm require prolonged and persistent treatment.

It would consume too much of your time for me to give illustrative examples of several other cases of anemia, so I shall merely mention that Peg H. at 20 months had lost all appetite, was fretful, very pale and unwilling to stand or walk. Her diet was exclusively milk and bread with a proprietary carbohydrate food added. The proper feeding was substituted and in three weeks she not only had a good color but was bright and active and walking.

Even though this brief and incomplete discussion of a very important condition by no means does it justice, yet I trust that it will stimulate an attempt to study and treat the many cases which today are disregarded.

THE DIAZO, RUSSO, AND WEISZ REACTIONS IN TYPHOID FEVER

By Francis B. Johnson, M.D., Prof. Clinical Pathology, Medical College of the State of South Carolina.

WITH the great increase in the prophylactic use of anti-typhoid vaccine we are being confronted with the difficulty of confirming our clinical diagnosis of typhoid fever by the use of the Widal reaction. Before the vaccine came into general use, the presence of a positive Widal meant that the patient had had or has typhoid. Now we have the additional point to consider, whether the patient has taken typhoid prophylactic or not.

Read before South Carolina Medical Association at Florence, S. C., April 15-16, 1919.

The method of making our diagnosis absolutely sure, by cultures from the blood, in which the typhoid bacillus can be found in practically every case during the first week and in 80 to 85% during the second week, is beyond the ability of the practicing physician.

We have, however, other laboratory tests which are simple and of sufficient corroborative evidence to be made use of.

The object of this investigation is a comparison of the use, in typhoid fever of the following urinary test: The Diazo Reaction of Ehrlich. The Russo Methylene-blue Reaction, and the Urochromogen Reaction of Weisz, and the presence of these reactions in other diseases as based upon the examination made of 524 patients treated at the Roper Hospital, Charleston, S. C.

The Diazo Reaction was introduced by Ehrlich in 1882[1]. The exact nature of the substances causing the reaction was not understood for a long time. The original method as introduced by Ehrlich has been modified by Green, making it more accurate in its results as an aid in the diagnosis of typhoid fever.

The exact formulars for the making of these tests solutions can be found in any text book on the subject.

The Diazo test consist in the use of two solutions, known as No. I and No II, the urine, and strong ammonia. Solution No. I consist of a solution of sulphanilic acid in a dilute hydrochloric acid, Solution No. II is a solution of sodium nitrite in water. 100 parts of Solution No. I is mixed with 1 part of No. II, about 1 or 2 c.c. To this mixture is added an equal amount of urine and mixed, strong ammonia

is layered on top. In typhoid a garnet red ring is produced at the juncture, and on shaking the foam is of a pure pink or red color, which is more characteristic than the garnet ring. All doubtful reactions should be considered as negative. A normal urine usually gives a brown ring and colorless foam.

In typhoid the Diazo usually appears about the fourth or fifth day and lasts until the end of the third week, or temperature becomes normal, being present in about 80% of the cases. The intensity of the reaction being somewhat parallel to the severity of the case. The reappearance of the Diazo of value in point to a true relapse. In measles it is present in the majority of cases, but is not present in German measles. Less frequently it is present in tuberculosis, scarlet fever, and pneumonia. In tuberculosis while it is not present early, it is of important prognostic value in that its presence continuously offers a bad prognosis, patients usually not living more than six months afterwards. The administration of certain drugs will effect this test, chief among which may be mentioned opium, salol, and phenol derivatives. These can be distinguished from the true.

The Russo methylene-blue reaction was introduced by Russo[2] in 1905, the technic is as follows: Five drops of an aqueous solution of methylene-blue (1-1000) is added to 5 c.c. of clear urine in a test tube and mixed. A normal urine will only show a greenish-blue color and a positive reaction is shown by an emerald or mint green color. Neuman and Behrend[3] have modified this as follows: Make an aqueous solution of methylene blue of such concentration that when thoroughly mixed it will be just translucent. Fill to just above the bowl of an ordinary test tube with this solution, then fill the test tube with urine, thoroughly mix, and examine against a good daylight. By the authors this test is claimed to be of more value than the original.

The value of this test is said to be affected by the drugs mentioned. It may be found in typhoid as early as the second day and last until the end of the third week. It is also present in measles, and tuberculosis, and is said not to be present in acute miliary tuberculosis. The presence of blood or bile in the urine will give a positive reaction. By some this test has been strongly condemned, by others praised.

The Weisz Urochromogen test was described by Weisz[4] in 1910, chiefly as an aid in the prognosis of pulmonary tuberculosis. However it also appears to be of some value as an aid in the diagnosis of typhoid. In this test as in the Russo there has been considerable variation in the technic as to the quantity of urine and reagent used. The usual technic calls for three 2 c.c of urine and 3 c.c. of distilled water, and adding 3 drops of 1-1000 aqueous solution of potassium permanganate. The appearance of a canary yellow color, lasting over thirty seconds denotes a positive reaction. A second tube with equal amount of diluted urine is kept as acontrol. Pottenger[5] has introduced good results by the standardization of this test as follows: Put 5 c.c. of urine (1 part urine to 2 parts water) into each of two test tubes, selected so that the column of liquid is 3.5 cm. deep. Hold over a strong white background and place 0.1 c.c. of potassium permanganate solution (1,1000) in one of the tubes. Holding the tube vertically and looking into the further end and recording any increase in yellow color at the end of 30 seconds as a positive urochromogen test.

The urochromogen test of Weisz can usually be found under the same circumstances as the two already mentioned. The three tests are not constantly present together in all cases, sometimes only one, sometimes two, and sometimes all three. Weisz states that the urochromogen test is found to precede the appearance of the diazo in tuberculosis and sometimes in the very late stages the diazo may become negative but the urochromogen test will remain positive.

The reaction produced by all three of these tests appear to be based upon precursor oxydation products of urochrome the normal yellow coloring matter of the urine. For a considerable time the nature of the substances producing these reaction was unknown, later the work of Weisz has shown that there are two urochromogens or precursors of the yellow urinary pigment urochrome. One of these, urochromogen A, which can be oxidized by potassium permanganate into urochrome; the other, known as urochromogen B, gives the diazo reaction of Ehrlich. The presence of these urochromogens in the urine is attributed to certain toxins, causing the breaking up of the tissues with excretion of incompletely oxydized material.

Our investigations have been made upon 524 cases treated in the hospital for various diseases. (See Chart No. 1). Of these there were 179 cases of typhoid in which 77.5% gave positive Diazo, 75.5% positive Russo, and 72% positive Weisz. 60% were positive to all three test, while 15% were negative to all three, giving us 85% that were positive to one or more of the test.

In 59 malarial cases 42 5% gave positive Diazo, 57.5% positive Russo, and 54% positive Weisz. All three tests positive in 46% of the cases, all the tests negative in 34%, and 66% positive to one or more of the tests.

In tuberculosis 52 cases were examined with 30% positive to the diazo; 40% to Russo, and 62% to Weisz. Only 16% found positive to all tests, 33% negative to all tests; 67% being positive to one or more, it will be seen that most of these positive were to the Weisz, i. e., 62%.

In pneumonia 14 cases were examined, 50% positive to the diazo, 25% to the Russo, and 25% to the Weisz, 25% positive and 25% negative to all, with 75% positive to one or more.

In several other diseases an occasional reaction was obtained to one or more tests but not to all three, excepting one case of morphinism, these including meningitis, influenza, chronic interstitial nephritis, and measles. In all other diseases, including some surgical, all were completely negative, except those showing blood or bile in the urine which gave a positive Russo always, an occasional positive Weisz, but never positive diazo.

	No. cases	Diazo+	Rus
Typhoid	179	77.5	
Pul. Tb.	52	30	
Malaria	59	42.5	
Pneumonia	14	50	

Per cent.				
25 so+	25 Weisz+	25 All 3+	25 All 3_	75 lor more+
75.5	72.	60	15	85
40	62	16	33	67
57.5	57.5	46	34	66

No. Cases				
Scarlet F. ....2+	1+,1+	2-	2-	
Syph. of St. 1	1-	1-	1+	
Meningitis Ep. 3	3-	2+,1-	2+,1-	
Influenza 4	4-	1+,3-	2+	2-
Cr. Int. Neph. 11	1, 10	1, 10	1, 10	
Morphinism.... 1	1+	1+	1+	
Measles 3	1+,	2-	1+	2-

Others, incl. 195 surgical.

Total examinations, 524.

The diseases that give a certain per cent. positive reactions, that are to be confused with typhoid as malaria, tuberculosis, and pneumonia, can well be differentiated by the clinical signs and symptoms, blood examinations, and therapeutic tests.

The comparative value of the Diazo, Russo and Weisz reactions have been studied by many investigators, and the conclusions have varied considerably; probably due to variations in methods used, the interpretation of colors obtained, the effects of drugs mentioned, and other causes not fully understood. By most writers on the subject the Diazo is placed as most valuable and reliable, the Weisz of greatest value in the prognosis of tuberculosis, and the Russo of least value.

The conclusions drawn by Neumann and Behrend [6] in regard to the Diazo and Russo probably would answer equally well for the Weisz reaction. That is, we should "take the middle ground, regarding these tests as simply links in the chain of evidence."

Our own conclusions may be said to concur with these investigators in that the Diazo gives the most positive and best results in typhoid, the Russo most often present in malaria, and the Weisz in tuberculosis is of value chiefly in regard to prognosis. In typhoid the use of these tests is advocated as being of surest diagnostic value when all three are present.

Diagnosis is seldom, if ever made upon the presence of one symptom or test, it is by obtaining all facts bearing on the case that a logical conclusion is reached and a correct diagnosis made. The presence of these tests is merely confirmatory in typhoid fever and should only be taken as such. They are simple, reagents easily prepared, test easily performed, take little time, can be done by the practicing physician in a few minutes, and have proven to be of sufficient practical value in confirming our clinical diagnosis of typhoid fever to be well worthy of our use.

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THE EMPYEMAS OF INFLUENZA

By Julius H. Taylor, M.D., F.A.C.S., Columbia, S. C.

THE epidemic of measles associated with the mobilization of large bodies of men for war, and the recent pandemics of influenza with their accompanying pneumonias have presented the greatest opportunities for the study of Empyema the profession has ever had. Previous to these epidemics, pneumonia was not nearly so frequently complicated by empyema and, furthermore, it was soon noticed that in the recent epidemics the broncho-pneumonias were accompanied by a frequent and surprisingly fatal type of empyema, the mortality ranging from 20 to 60%. Clearly the condition called for a most intensive analysis to discover the nature of this unfamiliar type of infection. Thus has empyema come in for a degree of attention it has always merited but never received. Let me here acknowledge my indebtedness to the various reports from the camps throughout the country where they have had the opportunity to study large series of

Read before the South Carolina Medical Association, Florence, S. C., April 16, 1919.

cases under the most propitious and scientific conditions from their inceptions to the autopsy tables. As we have said, no such opportunity was ever before presented.

In civil practice the empyemas encountered are nearly always due to the pneumococcus but it was soon found that the vast majority of the new type of empyemas were due to infection by a haemolytic streptococcus and are coincident with or follow a peculiar form of organizing bronchopneumonia. The infection of the pleural cavity takes place as a direct extension from the involved area in the lung, also, oftentimes however, as Moschowitz (1) has shown, thru a minute communicating opening between the pleural sack and an abscess just beneath the visceral pleura.

The most striking feature of this new type of empyema, in contra distinction to cases usually seen in civil life, is the extremely rapid formation of the pleural exudate. Cases are reported in which a pronounced exudate developed two days after the onset of the illness.

This pleural exudate rapidly becomes filled with myriads of virulent haemolitic streptococci and in specimens obtained by aspiration a single loop would often contain from 100,000 to 200,000 colonies in plate cultures. (2).

At this early stage in the development of an empyema the case is always in the hands of the medical man and it behooves him to have a most watchful eye for the appearance of this exudate, in that one is guided largely in treatment in these cases by the laboratory findings.

Don't let anyone for a moment delude you into thinking that a pleural exudiate is always easily identified, that the classic flatness, muffling of the breath sounds and changes in vocal fremitus are always present, for often only the needle will reveal the true condition. Whenever there is a suspicion of an exudate into the pleura, its presence and character should be verified by exploratory aspiration. Displacements of the heart without discoverable cause call always for an exploratory aspiration for fluid. When, however, these measures fail and fluid is suspected, whether early in the disease or because the lung condition does not clear up as promptly as it should, the chest should be x-rayed, preferably a stereo-scopic view, and if a suspicious area is located aspiration should be done over this site under guidance of the picture. Particularly is this procedure of value in encapsulated collections of fluid where oftentimes by this method only may they be located.

In the early stages of this type of empyema the exudate is varicolored and only slightly turbid, occasionally it is blood tinged.

The most important advice the Empyema Commission (2) has to offer in these cases at this stage is not to operate.

However, when the fluid accumulates to such an extent as to cause dyspnoea, cyanosis and rapid pulse it should be evacuated with an aspirator as often as indicated.

Now there are certain precautions and points in technique in this simple operation of aspirating pleural effusions that it might not seem amiss to emphasize.

If there be no indication otherwise the site for puncture is in the 9th space in the post axillary line. The sharper the needle the less painful to the patient. Be careful to avoid the lower margin of the rib for it is here that the nerve and blood vessels lie.

The skin should be tightly drawn to one side before puncture so that

after the needle is withdrawn, the holes through the various layers will not lie in the same line. In this way is the entrance of air and leakage avoided. The fluid should be withdrawn very slowly and the withdrawal should cease at once on the slightest subjective distress.

Besides the very potent reason along practical lines of a lower mortality obtained by thus delaying the operation of opening the chest wall there are in addition sound theoretical grounds.

We quote from A. W. Moschowitz (1) of the Empyema Commission:

"At an early stage of an empyema the fluid is free within the pleural cavity, and there are practically none or only very slight limiting adhesions; in other words we are dealing with a free hydrothorax, or if one choose to call it, a pyothorax. If an operation is undertaken at this stage, we convert the only slightly dangerous hydrothorax into the extremely dangerous hyper-acute pneumothorax. This brings about the justly dreaded fluttering mediastinum with ultimate fixation on the opposite side of the thorax. Therefore, instead of attaining the desired object, namely to relieve the embarrassed respiration and heart action, the operation only aggravates it."

The immediate result of this hyperacute pnuemothorax is a sudden severe dyspnoea the explanation of which is found in the fact that with the admission of air and the establishment of atmospheric pressure against the side of the mediastinum, this structure with all its vital contents is drawn over to the intact side by its normal negative pressure. During inspiration it is drawn over still more while during expiration it returns only a little. Hence the intact lung cannot expande enough to draw in a sufficient quantity of air.

In those people whose mediastina are either more inherently resistant to lateral displacement or where chronic infiltration has stiffened normally movable mediastinal structures, or, as is most frequently the case, where the lung is adherent to either the diaphragm or chest wall the entrance of air into the pleural cavity is not followed by dyspnoea.

Furthermore, in addition to the production of this hyperacute pneumothorax if the chest is opened at this early period, the patient is acutely ill with pneumonia and is in no condition to have the added burden of an operation, however minor.

Emil Beck (3) gives us further possible causes for the mortality the sudden mobilization by removal of the fluid of an acutely inflamed lung, and the secondary infection and absorption of the streptococci thru the wound surface, citing two cases of the latter as reported by the Empyema Commission. (4)

So, altogether on both theoretical and practical grounds it is better to delay operation until the patient has built his defences both mechanically, by walling off the fluid with adhesions of the lung to the chest wall, and by developing a certain degree of protective immunity, for when the fluid has become purulent it has lost much of its toxicity for the individual. This change from the early character of the pleural effusion spoken of, to a frankly purulent one ushers the patient into the operative stage and we now have to consider the best operative management to institute.

In our individual experience there have been in all, twelve cases of empyema of the various types.

The anaesthetic of choice is without question the local use of novocain or apothesine (P. D. & Co.) either for a rib resection or for the introduction of the trocha and canula as devised by

McKenna and spoken of later in detail. Following a rib resection, there has recently come into use in the camps of the country and generally in the larger hospitals, Dakin's solution to promote and hasten the sterilization and healing of the cavity.

We have had no personal experience with its use and where it has been instituted, men especially trained at the Rockefeller Institute have supervised its preparation and use. Tho not without a discordant note here and there its use seems to have been attended by very striking results. In some cases reported, the sterilization of the pus cavity has been so rapid and complete that the incision was closed by suture within 12 days of the thoracotomy.

While various methods have been devised for draining the chest in conjunction with the use of Dakin's fluid, to my mind the simplest and most striking has been designed by Hugh McKenna of Camp Pike, Ark. (5)

MeKenna drains the plueral cavity by means of a No. 14 French soft rubber catheter, introduced by means of a trocha and canula just large enough to thread the catheter into the pleural cavity. The catheter is then connected with a 100 c.c. glass syringe and aspiration is carefully and intelligently carried out. If the pus is too thick for aspiration, a small amount of neutral solution of chlorinated soda (Dakins solution) is allowed to run in.

This liquifies the pus quickly so that by repetition of this procedure the en tire cavity is emptied. The Canula is withdrawn, leaving the catheter in place and 1-2 the number of c.c. of Dakin's solution are allowed to run into and remain in the pleural cavity as corresponds to the quantity of pus aspirated during the operation. This aspiration and refilling with antiseptic solution is done three times a day and twice a night.

In one of our cases we were by force of circumstances driven to repeated aspirations of one pleural sack following a resection of a rib on the other side. This was in an eight year old boy with both chests full of pus following influenza pneumonia. He was a very ill patient, markedly cyanotic and dyspnoeic.

We could of course decompress but one side and two days later was begun the careful and gradual emptying of the other side by repeated aspirations with the most painstaking care to prevent the entrance of air into the pleural cavity.

His convalescence was long but ultimately both sides cleared up.

References:—
1. A. V. Moschowitz, S. G. O. April, 1919.
2. Report of Empyema Commission, J. A. M. A. August 10, 1918.
3. Emil Beck S. G. O. April, 1919.
4. Report of Empyema Commission J. A. M. August 3, 1918.
5. Hugh McKenna J. A. M. A. August 31, 1918.

CONSTRUCTIVE MEHHODS IN INFANT WELFARE WORK.

By Miss Lillian Duke, R.N., District Nurse, Rome, Ga.

Before offering this paper I want to state it contains nothing original, perhaps every thought expressed has been expressed before. I have sought to obtain views and expressions through our own work and methods. But the structure as a whole is my view of the proper development of my subject.

First: Through the Floyd County Commissioners and others. We have chartered for twenty years and organized the "Floyd County Public Health Nursing Association" and this is one among a number of such organizations recently started to preserve in-

Read before the South Eeastern Sanitary Association, May 12,13, 1919.

fant's life. Our care starts at the prenatal period and we are responsible until the infant reaches school age—as I will explain later.

Also we are working towards maternity and child's welfare station where the mothers can come for advice. The weight and height of all infants will be kept, also record of prenatal cases.

It is impossible for an organization or infant constructive methods to exist without a common conception of purpose. The most important of unity is in determining will the objective of our efforts. Certainly we all agree that the fundamental functions of the means to this end are: 1st.The prevention of infant mortality, and at the present time we are passing through a transitional period in (the care of infants in the solution of health problems. Old established methods which have been accepted as the standard throughout the country for years are being gradually replaced.

What, after all, is infant welfare work or you might say public health work? It means the education of the public in prevention as well as the care of the sick and its infants. Its scope includes under the term everything which in any way affects the health of our community. Methods, of course, must differ according to the local conditions, but there are certain watch words to which we may all agree in our methods, zeal, interest, devotion, time and intelligence.

Through these watchwords we must construct a plan that will answer not only the needs of the day but will stand the test of the future years.

In order to construct such a plan it would be wise to consider: Past influence, Present problems, Standards and Responsibilities.

Time was in the distant past when parents were allowed to put their children to work instead of insisting upon school attendance. Now through public interest the amount of schooling the child shall have is decided by the State. In the near future the State will probably assume the responsibility for the life and health of its infants. "The wards of the State" in early Rome, the father, not the State, had the power of life and death over the child, an old custom requiring that the new born baby be placed upon the ground, if the father desired the child to live, he raised it in his arms invoking the Goddess Levana, if not it was at once exposed to death. After the opening of the Christian era the church, not the state, began to interest itself in the infant question and began to care for orphans and children abandoned by their parents. There are no statistics to tell of the infant mortality of those days, but judging by the results of the same conditions on babies at present time it must have been appalling. Even royal babies were no exception, Queen Anne left no heir to the throne of England, yet she bore eighteen children, only one of whom survived even to its eleventh year.

With the coming to the front of prevention, various methods have been tried. Prevention means education, and our problems are not one alone of housing, or indeed of poverty as such, but I find it mainly a question of motherhood, relating chiefly, to public health nursing, and health department of cities and state. And if we would solve the problem of our infants, it would appear that we must first construct methods to obtain a higher standard of physical motherhood. The child who depends for its life in the first twelve months, not upon the state, nor upon this or that system of milk feeding, but upon the

health, intelligence, devotion and maternal instinct of the mother.

The fundamental methods have been a higher standard of special education for the nurse, with a better obstetrical service, free baby clinic or consultations, home visiting with and instruction for the mother before and after the birth of the baby.

(Special stress to be laid on maternal nursing) a clean milk supply and infant medical attention easily available.

We have learned that war measures for the preservation of infant life have been attended with remarkable results in Paris. At the beginning of the war a central office was opened for the assistance of women and babies. Seventy-four per cent. of the 16,579 births occurring during the first months of war took place in institutions. The maternal mortality was about 20% less than that of the same period in 1913, and the infant mortality was 30% less. The infants of 1914 were superior to those of previous years, averaging 15 % higher in weight. The mothers were all able to nurse their babies at first.

Infant welfare nursing is done in one or two ways, by the general visiting nurse, as part of her regular work, or special nurses, whose whole time is given to infants or children, the former is apt to be the method pursued in the small towns, the latter, in large cities, and as we go about our district of work we should not be ignorant of the most interesting subject the menace of the feeble minded girl or other defective or degenerate type which we come in contact, for this has a special bearing on the infants of the nation. We should realize that the methods must lie in reporting such continuance in another generation of such mental, moral, and physical disabilities, in the children of today. I have also discovered causes of delicate babies who are suffering from malnutrition in its earliest and less acute stage, the chief cause of this condition is ignorance of our mothers on the infant hygiene. This fact points to the need of infant health stations where the mothers are brought in touch with the best modern knowledge of the condition of child life. The child's whole future depends on its having proper care before and after birth, and the mother's health from that day forward depends upon it. The welfare of the next generation is controlled almost entirely by the care of pre-natal instruction and care at birth. In many places an unfortunate situation exists by which the infant becomes the responsibility of three, or four groups of nurses, his age being the determining factor in the division of this responsibilty. Pre-natal nurses are responsible for its welfare before birth, obstetrical nurses give him his first care, at two weeks of age he is handed on to the infant welfare nurses who may, or may not, keep him until the beginning of his school life, the school nurse assumes the final responsibility. It often arises because different nurses have undertaken these different phases of the work, and infrequently, this well-cared-for child is nobody's responsibility between the age of two years, sometime one, and the time he goes to school. Surely this is a waste of forces. Why should not one group of nurses be entirely responsible for him at least until he enters school.

If the baby needs care, and if the child of school age needs care any arrangement which does not recognize his needs between these two ages is a loss of forces.

Many a cripple would not be dragging out a weary inactive existence

had he been somebody's responsibility at three years of age.

During these years proper diet is scarcely less important than in babyhood. Improper feeding is less apt to cause death, but it does hinder proper development, lowers vitality, and produces the under-nourished, anemic child that was so well cared for in infancy.

We need some organization effort for the protection of infants, including the child until school age.

An interesting method in infant-welfare work is the exhibit. The exhibit should include proper clothing, sleeping and bathing arrangements. Models showing good and bad housing conditions, methods of fly prevention, lectures,

I want to urge that we do outline a definite method of cooperation. I would suggest that this outline be in the form of a consistent program for the care and protection of infants.

The program should be rich in statistics of the state work. It should include a study of the entire infant and child welfare situation, including education, recreation, as well as the care of dependent, neglected infants, it should aim to stimulate to a more general knowledge of the work, and condition in homes of the infants. Let us takethe spirits of business and of love and bind them together into the formation of an infant-helping trust, into a federation of agencies headed by the business spirit of a Candler or of a Morgan, and guided by the ideals of Jesus Christ, let us dedicate this trust to the conservation of our infants.

Let us all labor together, all gathering from all, all giving to all, each for the other, and all for God, that these less fortunate children thrown on our care, may have health, life and have it more abundantly.

SOCIETY REPORTS

MEETING OF THE THIRD DISTRICT MEDICAL ASSOCIATION.

The Third District Medical Association met in its annual convention at Greenwood on July 29th, at 8p. m. as the guests of the Greenwood County Medical Society.

We had a complete reorganization, with the following officers elected:

Dr. Rolfe E. Hughes, President, Laurens, S. C.

Dr. Wm. G. Blackville, 1st vice-president, Parksville, S. C.

Dr. C. H. Blake, 2nd vice president, Greenwood, S. C.

Dr. John R. Power, secretary and treasurer, Abbeville, S. C.

The next annual meeting will be held at Abbeville.

Dr. E. W. Pressly, President of the South Carolina State Association, was present and delivered a highly interesting and pleasing address before the convention. Dr. E. A. Hines, secretary-treasurer of the South Carolina State Association, gave us an interesting talk and mapped out the needs of the medical profession. The regular program was then entered into and we first had clinical report of cases, some very unique and interesting cases and the discussion was entered into by a number of members with a deal of enthusiasm. The following subjects then came up for discussion: Dr. D. A. J. Bell, Biliousness So-called; Dr. S. C. Hays, Dichloramine T as an Antiseptic. Dr. G. P. Neel, Prostatic Difficulties in the Aged; Dr. J. W. Davis, Typhoid Fever, the Diet and Control of Fever in Same.

Every county in the district was represented and a large number of members present. Now that the stress and strain of war conditions is laxed the members are resolved to work with greater interest for the human race than ever before.

The following resolution was unanimously adopted:

Resolved, That each Medical County in this District pledge themselves to give one Public Health Day in their respective counties annually for the advancement of public health.

After the convention adjourned the Greenwood Medical Society invited the members to supper which was enjoyed very much. A unanimous vote of thanks was given the Greenwood County Medical Society for their delightful hospitality.

T. L. W. BAILEY.

BOOK REVIEW

RECONSTRUCTION THERAPY. Reconstruction Therapy. By William Rush Dunton, Jr., M.D., Assistant Physician at Sheppard and Enoch Pratt Hospital, Tawson Maryland; Instructor in Psychiatry at the Johns Hopkins University; President of the National Society and of the Maryland Society for the Promotion of Occupational Therapy; Secretary of the Maryland Psychiatric Society. Illustrated. W. S. Saunders Company, Phila. and London.

Work as a remedial measure has long been recognized as an invaluable therapeutic resource. The great war emphasizes more than could possibly have been done otherwise, the scope of work in the reconstruction therapy of the nation. This little volume is replete with practical suggestions.

THE HIGHER ASPECT OF NURSING. The Higher Aspect of Nursing, by Gertrude Harding. 12 mo. of 310 pages. Philadelphia and London: W. B. Saunders Company, 1919. Cloth $2.00 net.

The author, as a result of years of her experience, has arrived at the conviction that no woman has a right to enter the nursing profession with purely selfish motives. There is a higher aspect of the profession which seems to have eluded many of those who enter upon it.

It is to this higher aspect of the subject, and to this more exalted view, that the attention and interest of the reader are invited.

DIET IN HEALTH AND DISEASE. The New (5th) Edition. Diet in Health and Disease. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore; and John Ruhrah, M.D., Professor of Diseases of Children in the University of Maryland and College of Physicians and Surgeons, Baltimore. Fifth edition, thoroughly revised and enlarged. Philadelphia and London: W. B. Saunders. Octavo of 919 pages. Company, 1919. Cloth, $6.00.

Probably no book on diet is so satisfactory to the profession as Friedenwald and Ruhrah. The work has passed through five editions which in itself speaks well of the value of the subject matter. A number of new articles have been added, among which may be mentioned those on vitamins, amino acids, acid and alkali content of food, relation of food to skin surface, milk standards, food allergy, Sippy's diet in peptic ulcer and numerous smaller ones.

1918 COLLECTED PAPERS OF THE MAYO CLINIC, ROCHESTER, MINN. 1918 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1196 pages, 442 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth $8.50 net.

The papers emanating from Mayo Clinic are always looked upon as authoritative, deservedly so. The volume under review covers a wide range of subjects under the following heads: Alimentary Canal, Urogenital Organs, Ductless Glands, Heart, Blood, Skin and Syphilis, Head Trunk and Extremities, Nerves, Technic, General.

THE PERITONEUM. The Peritoneum. Vols. I and II. Vol. I Structure and Function in Relation to the Principles of Abdominal Surgery. Vol. II Diseases and Their Treatment. By Arthur E. Hertzler, M.D. F. A. C. S. Surgeon to the Halstead Hospital, Halstead, Kansas; Associate Professor of Surgery, University of Kansas; formerly Professor of Pathology, Experimental Surgery, and Gynecology, University Medical College, Kansas City, Mo. A contribution from the Laboratory of the Halstead Hospital, and from the Department of Anatomy of the University of Illinois. The price of the book is $10.00. C. V. Mosby Company, St. Louis, Mo.

This is perhaps the most exhaustive treatise on the Peritoneum published in this country in recent years. Every surgeon and every general practitioner will find here a storehouse of information not only invaluable from an academic standpoint but many practcial suggestions useful in every day practice. The make-up of the books, print, paper and illustrations deserve more than passing notice.

SYMPTOMS OF VISCERAL DISEASE. symptoms of Vitceral Disease. A Study of the Vegeative Nervous System in its Relationship to Clinical Medicine. By Francis Marion Pottenger, A.M., M.D., F. A. C. P., Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California; Professor of Diseases of the Chest, College of Physicians and Surgeons, Medical Department, University of Southern California, Los Angeles, California. With 86 text illustrations and nine color plates. Price $4.00 C. V. Mosby Compnay, St. Louis.

The monograph is arranged in three parts: Part 1. The Relationship Be-

tween the Vegetative Nervous System and the Symptoms of Visceral Disease; Part 11. Innervation of Important Viscera, with a Clinical Study of the More Common Viscerogenic Reflexes; Part 3. The Vegetative Nervous System.

This book is an attempt to show the relationship between physiologic facts and clinical observation and is given forth with the hope that it may stimulate greater interest in clinical obesrvation and interpretation.

GERIATRICS. A treatise on senile conditions, diseases of advanced life, and care of the aged. By Malford W. Thewlis, M.D. Associate Editor, Medical Review of Reviews, New York City. With introductions by A. Jacobi, M.D., LL.D. and I. L. Nascher, M.D. 250 pages; illustrated. cloth $3.00. C. V. Mosby Co. St. Louis.

There is a decided field for special work among the aged and far more may be done along this line by the profession than has hitherto been the case. This book is a scientific treatise presented in a clear cut way, attractive to the reader and filled with suggestions the busy doctor may resort to in his practice.

THE HEALTH OFFICER. The Health Officer. By Frank Overton, M.D., D. P. H., Sanitary Supervisor, N. Y. State Dept. of Health and Willard J. Denno, M.D., D. P. H., Medical Director of the Standard Oil Company. Octavo 512 pages with 51 illustrations. Philadelphia and London: W. B. Saunders Company, 1919 Cloth, $4.50 net.

We know of no work on this subject comparable from a practical standpoint. The authors write from an invaluable actual experience in New York where the public health activities are abreast of any country in the world.

TRAINING SCHOOL METHODS FOR INSTITUTIONAL NURSES. Training School Methods for Institutional Nurses by Charlotte A. Aikens, formerly Director of Sibley Memorial Hospital, Washington, D. C.; formerly Superintendent of Iowa Methodist Hospital, Des Moines and of Columbia Hospital Pittsburg; author of "Hospital, Management," "Studies in Ethics for Nurses," etc. 12 mo. of 337 pages. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $2.25 net.

The author of this little book is an authority of national reputation and her words carry weight accorded to few writers in this country. The trained nurse and her work are under severe criticism at the present time in many quarters. Such a book as this will clear up many misunderstandings in regard to the nursing profession.

OUTLINE OF GENITO-URINARY SURGERY. Outline of Genito-Urinary Surgery. By George Gilbert Smith, M.D., F. A. C. S. Genito-Urinary Surgeon to Hospital. Assistant Visiting Surgeon, Hospita! Assistant Visiting Surgeon, Collis P. Huntington Memorial Hospital; Captain Medical Corps, U. S. A.; Fellow American College of Surgeons, Member of the American Association of Genito-Urinary Surgeons and of the American Urological Association. Authority to publish granted by the Surgeon-General, U. S. A. Illustrations by H. F. Aitken. W. B. Saunders Company, Philadelphia.

No branch of medicine has advanced more rapidly than Urology and this book is a creditable contribution to the subject.

THEMEDICAL CLINICS OF NORTH AMERICA. The Medical Clinics of North America. Baltimore Number. Vol. 2, No. 6. May, 1919. Index Number. Published bi-monthly by W. B. Saunders Company, Philadelphia and London.

Some of the Clinics reported in this number are the following:

Clinic of Dr. Lewellys F. Barker, Johns Hopkins Hospital. Funicular Myelitis, or Combined Sclerosis fo the Spinal Cord.

Clinic of Dr. Julius Friedenwald, Mercy Hospital. Personal Experience in the Treatment of Ulcer of the Stomach. Various Types of Achylia Gastrica as Revealed by the Rehfuss Method of Fractional Analysis.

Clinic of Dr. Paul W. Clough, from the Medical Clinic of the Johns Hopkins Hospital. Pneumococcus Sepsis.

Clinic of Dr. E. H. Gaither, Johns Hopkins Hospital. The Role of Diet in Treatment of Digestive Diseases.

Clinic of Dr. Louis Hamman, Johns Hopkins Hospital. Introductory Remarks to a Discussion of Diabetes. Serious Membrane Tuberculosis. Auricular Fibrillation.

THE MEDICAL CLINICS OF NORTH AMERICA. The Medical Clinics of North America. Vol. 2, No. 4. New York Number. January 1919. Published bi-monthly by W. B. Saunders Company, Philadelphia.

Among the interesting articles in this number are the following:

Clinic of Dr. W. S. Bandler, Post-GraduateHospital. Sterility in Women, with Especial Reference to Endocrine Treatment of Same.

Clinic of Dr. Henry Rawle Geyelin, Presbyterian Hospital. Certain Aspects of the Modern Treatmentof DiabetesMellitus.

Clinic of Dr. A. S. S. Blumgarten, Lenox Hill Hospital, Cases Illustrating Diagnostic Problems. 1. Primary Malignant Tumor of Lung. 2. Cerebrospinal Syphilis. 3. Three Cases Illustrating Problems in Nephritis. 4. Two Cases Illustrating Diagnosis of Aortic Syphilis.

Clinic of Dr. Eugene F. DuBois, Cornell University Medical School. The Basal Metabolism as a Guide in the Diagnosis and Treatment of Thyroid Disease.

Clinic of Dr. Willy Meyer, Lenox Hill Hospital. Advanced Pulmonary Tuberculosis, a Borderland Disease.

MANUAL OF EXERCISES FOR THE CORRECTION OF SPEECH DISORDERS. Manual of Exercises for the Correction of Speech Disorders. By May Kirk Scripture, B. A. Instructor in Speech, Columbia University (Extension and Summer Session); Director of Speech Correction, Vanderbilt Clinic, Neurological Department, College of Physicians and Surgeons, New York City; Special Assistant in Speech Defects, Medical Council of New York City Children's Hospital and School, Randall's Island; Lecturer at State University of Iowa, Iowa, 1918

And

Eugene Jackson, B. A., in charge of Speech Correction at the University and Bellevue Hospital Medical College Clinic, New York City; Teacher for the Correction of Speech Defects, New York Evening Schools. Illustrated; price $2.00 net. F. A. Davis Company Publishers, Philadelphia.

the average educator and the medical profession, especially the general practitioner, know little of the wonderful results attained in the treatment of speech disorders. The book before us is illuminating along these lines.

GYNOPLASTIC TECHNOLOGY. Gynoplastic Technology with a chapter on "Sacral Anesthesia." By Arnold Sturmdorf, M.D., Clinical Professor of Gynecology, New York Polyclinic Hospital; Consulting Gynecologist to the Manhattan State Hospital; Fellow of the American College of Surgeons. Fellow of the New York Academy of Medicine; Fellow of the American Medical Association; etc., etc. Illustrated with 152 half-tone and photo-engravings in the text, some in colors, and 23 full-page plates with 35 figures all in colors. F. A. Davis Company, Publishers, Philadelphia.

The author has given an excellent resume of gynecologic plastic surgery. The illustrations are especially valuable and instructive.

ABSTRACTS

INFLUENZA

The bacteriology of the recent pandemic of influenza and its complications is the subject discussed by W. H. Park, New York (Journal A. M. A., Aug. 2, 1919). The epidemic first appeared in Europe, and naturally the influenza bacillus of Pfeiffer was first thought of as a casual factor. The reports of the study were conflicting. In some localities it was rare, while in others it was found in almost every case. A few observations in France and England indicated the presence of a filtrable virus, at least in some cases. As such had already been demonstrated to be occasionally present in common colds, this announcement only opened one more line for investigation. The possibility that there were two similar diseases existing in Europe made it advisable to concentrate on the bacteriology in this country. Here, there was no question as to the unity of the epidemic sweeping over the land. The conditions that must be fulfilled by the guilty germ are that it must be uniform in its characters throughout; but some bacteriologists fail to appreciate this. The most delicate test we have for identity of bodies, and the agglutinins produced are usually selected as the best evidence of identity or dissimilarity. With filtrable viruses we have to depend on the use of some susceptible animals or human volunteers, and if successful in producing infection, test for specific immunity. The uncertainty as to the pandemic virus is increasing since the epidemic has passed, and Park reviews some of the investigations recorded in the literature, the results of which favored the influenza bacillus as a primary or secondary invader. Pneu-

mococci were universal but of different types. A careful survey of all the literature leaves the same impression as the studies reviewed by Park. There is no proof, he says, that any one germ is present in all cases, though the influenza bacillus has the lead among possibilities, and the idea persists that, owing to the difficulty of isolating it, the failure to detect it may be due to its being overlooked. Park gives the result of the study of the subject in the laboratories of the New York City health department, made for test- the immunologic reactions of isolations This investigation was made with extreme care, and the results seem to show that influenza bacilli, like pneumococci, have gradually, through the years, altered on the mucosa of healthy carriers into many strains, having many essential characteristics in common, but are still different in their susceptibility to specific immune substances, and perhaps in other reactions. "It seems right to assume," Park says, "that the infecting strain is in great excess during infection and that in nearly every case the colony tested will represent the infecting strain, and that the proof that the patients are infected by different strains indicates almost certainly that bacilli were present before and that some virus created conditions permitting the latent bacilli to attack the tissues. These results were obtained from cases in different regions and outbreaks and appear to us to throw the influenza bacilli in the cases studied as clearly into the class of secondary invaders, as the discovery that the pneumococci isolated from other cases are separated into the different fixed types places them in the same position." He believes that other organisms under suspicion in different localities will be found to fail to meet the requirements of the primary agent in the epidemics. There is no question as to the accuracy of the results nor their interpretation. To demonstrate a given strain as the cause of a pandemic, it will have to be shown that it is different from other strains in normal persons. Finding of a single strain in normal and diseased individuals would be only moderately presumptive evidence.

INFLUENZA

W. H. Frost, Washington, D. C. (Journal A. M. A., Aug. 2, 1919), discusses the cyclic pandemics of influenza and remarks on the lack of systematic records. In the long intervals between the epidemics, the influenza becomes inexplicably confused with other respiratory infections, so that the records of prevalence, and even of mortality, are lacking. In their absence, statistics of mortality from the group comprising influenza and all forms of pneumonia come the nearest to the desired data, but furnish only an index instead of a measure of the prevalence of influenza. He gives such chart records as are available in this country, namely, those from Massachusetts and certain large cities, which indicate the beginnings and part of the course of the late epidemic, together with some records from the army authorities. There were mild epidemics in Europe early in 1918. The mortality statistics of the disease in this country are available for many camps and cities. There are wide variations, both in the incidence of the disorder and in its mortality in different localities, in civil as well as in the soldier population. In general, the epidemic resembled that of 1889-1890, developing first in mild, scattered outbreaks, and later in a severe world-wide epidemic. It has been notably different, however, in the respect that there has been a much higher frequency of pneu-

monia, with a consequent higher mortality, especially among young adults. The recurrence are characteristic of such epidemics, and it is probable that we may have at least local recurrences in the near future, with an increase over the normal mortality of pneumonia for perhaps several years, and we would do well to prepare to meet this situation. The efficacy, however, of the preventive measures is not proved, and we shall have to continue depending on the apparently sound principles applied in the past. A scientific study of the disease must not depend on recurrences, but should be continued for a series of years, since a knowledge of the intervals is essential to the study. We should have a better differential diagnosis of endemic influenza, besides more careful observation and recording of the relatively mild and indefinitely diagnosable aggravations of similar respiratory disease.

INFLUENZA.

L. A. Conner, New York (Journal A. M. A., Aug. 2, 1919), reports on the symptomatology and complications of influenza, as shown by data from seventy-two base and general hospital reports to the Surgeon General of the U. S. Army. Two features stand out: first, the singularly uniform clinical picture of cases in the same camp, and second, the striking agreement by observers in the various hospitals as to the characteristic features of the disease. The period of incubation, in the majority of cases reported as to this feature, was given as three days or les, and in several reports it was stated as not usually more than twenty-four hours. It is safe to call the incubation period short. Reports are practically unanimous that the onset is sudden in most cases, and the initial symptoms surprisingly constant and uniform, being chilliness, prostration, fever, headache, backache and pains in the limbs. Somewhat less frequently there was an irritating dry cough and sore throat. To this must be added a characteristic mental state. Prostration was frequent and one of the most constant symptoms, and cough and hoarseness were present at some time in nearly all cases. The character of the sputum varied considerably. Coryza was less constant. Epistaxis was a striking symptom in about one-fourth of the cases. The respiratory rate was little disturbed and the temperature notably low. The physical signs were not infrequently normal throughout the attack, and when normal it was usually in the latter part of the illness. One of the characteristic and striking features was the slow pulse. In a certain small proportion, persistent tachycardia occurred. The blood pressure was generally unchanged, but, in a few reports, a tendency to low diastolic pressure was noticed. Leukopenia was a characteristic, even in the presence of a complicating pneumonia. The most conspicuous nervous symptom was pain—frontal headache, severe backache, and pain in the limbs. Mental dullness and somnolence marked the early stage with usually some depression of spirits. Delirium and meningismus were rare. Severe neuralgic pain, noted in the epidemic of 1889-1890, was but little seen. Gastro-intestinal symptoms were inconspicuous, being noted as frequent in only one of the seventy-two reports. Sore throat was a frequent complaint, although tonsillitis was not the usual type. Another frequent and interesting set of symptoms were those of the skin; flushing or erythematous rash was common in the beginning, sometimes resembling scarlet fever, and sometimes discrete macules of the face and trunk. Herpes of the face and lips

was seen in about 10 per cent. of the cases. Injection of the conjunctiva was a common early symptom, and pain and stiffness in moving the eyeballs. The urinary symptoms were not apparently important. Convalescence was gradual, varying in length and sometimes requiring several weeks. It is difficult to draw a sharp line between what we should consider complications and simple influenza. The most important was pneumonia, which Conner thinks should be considered rather as a complication. It occurred in between eight and 23 per cent. of the cases and varied greatly in its manifestations. The rise of temperature was gradual, and chill was not common in the beginning. The relations between the symptoms and the dominating organisms, especially Streptococcus hemolyticus and Staphylococcus aureus were marked. Among the symptoms especially mentioned are the cyanosis, the comparative absence of pain, leukopenia, and the fulminant character of many of the cases. Other respiratory complications were laryngitis, purulent bronchitis, pulmonary abscess and pleurisy and empyema. A rather remarkable complication was subcutaneous emphysema, usually seen in severe pneumonia cases. Serious heart symptoms were not usual. The persistent tachycardia seemed to be purely functional. Of nervous symptoms, meningitis seems to occur only in cases complicated by pneumonia. Mental depression and slow convalescence were often pronounced, but in general the psychoses seemed to be sequels rather than complications. Arthritis was rare as a complication, but the pneumococcic type was occasionally seen following pneumonia. Ear and sinus disorders are mentioned as rare. To one who has had experience with the epidemic of 1890, as well, there can be doubt as to the identity of the two. The present one, however, has been much the most virulent, attacking a larger proportion of the population with a greater incidence of pneumonia and somewhat greater apparent mortality. The cerebro and the gastro-intestinal types, concerning which so much was written in the former epidemic, were rare in the present one, which has been, for all practical purposes, only of the respiratory type.

MEDICAL GRADUATE EDUCATION

C. M. Jackson, Minnepaolis (Journal A. M. A., Aug. 2, 1919), speaking of the modern growth of the tendency towards specializing, with its advantages and its disadvantages in narrowing the point of view of the physician and in increasing the expense to the public, a tendency certain to increase, says it is evident that our present supply of specialists is far below that indicated in the medical directory. The demand for well trained specialists in all lines is great, and the problem is how to meet it. Opportunities for hospital positions are still limited, and while an adequate general medical education is a first essential to avoid the narrowness that a limited field brings, there are good educational and social reasons why the graduate training for special work should begin as early as possible. The graduate of a first class medical school, with subsequent hospital internship, may safely be left to proceed to train himself in his chosen special line. The first step should be to increase his knowledge of the underlying sciences, and the principle that clinical medicine as an applied science is more true of specialism than of general practice. Where is the education in the fundamental sciences to be obtained, except in the laboratories of

the larger universities? And while there are some fairly good laboratories as regards pathology and bacteriology, but few have any one who is capable of guiding the student in systematic advanced study. The other laboratories necessary for graduate training are not provided for, and, on account of the great expense involved, it would appear impossible for the independent postgraduate school to provide the means for advanced scientific work. Even the universities which have the staffs and facilities have not generally sufficient consideration to this need. The essential thing is that each student should have his work well outlined and supervised, and on account of the relatively small number of students seeking it, this instruction must be, necessarily, chiefly, individual in character. If the student can also have an opportunity of acting as teaching assistant in these fundamentals, so yet in the beginning of its possibilities. much the better. Medical science is as The importance of the research spirit is emphasied by the author. Some knowledge of foreign languages, at least a reading one, is necessary, and some form of certification. There is no unanimity as to what degree should be given; Jackson seems to favor Sc. M. or Ph.D., with specification as to field of proficiency.

MAXILLOFACIAL SURGERY.

V. P. Blair, St. Louis (Journal A. M. A., Aug. 2, 1919), describes the work done in the late war in the treatment of maxillofacial injuries. While the same surgical principles apply as in other wounds, this type calls for special dental splints, or splints with dentla attachments, and the cooperation of the surgeon with a dental surgeon is generally needed. With this fact in view, the Surgeon General, with the cooperation of both surgeons and dentists, established special short courses in the Northwestern University, Dental School, the Evans Dental Institute, the University of Pennsylvania and in the Washington University; but the selection of teachers was not confined to these faculties. Not the least important results were the data obtained as to the qualifications of the officers for this work, which requires also the cooperation of the ophthalmologist and rhinologist. The measures taken by the French and British authorities and the organiztaion of operations in France are described. In the early part of the work, there was a shortage of competent surgeons for this line, and specialization was overshadowed by the more vital problems. After Aug. 20, 1918, the service became really established, and from that time on the work was well under way, though handicapped by the lack of much of the special equipment. There are no definite figures, as yet, of the number of cases treated, but, using as a basis the average of the cases of former wars, and those of the British forces us to Christmas, 1917, it seems probable that this type constituted at least one per cent. of all wounds. There have been evacuated to this country, up to date, about 600 patients, and practically no more remain abroad. Of these 600 cases, the patients in 260 have been discharged. There are now in hospitals 339 patients whose treatment will necessarily average from about two weeks to 90 days. The use of camouflaging masks was not a great success, as far as Blair knows. There are none he thinks now actually in use by our men. At each of the four centers in this country, photographers, sculptors and artists are attached to the service. Blair notices the importance of early treatment and the danger of infection as a

cause of delay in healing. Altogether, patients in 75 cases have undergone or will require grafting for bone loss from the injuries, and several instances are especially mentioned.

INFLUENZA.

M. J. Rosenau, Boston (Journal A. M. A., Aug. 2, 1919), gives an account of experiments made at Gallop's Island by officers of the U. S. Navy and U. S. Public Health Service, in which he himself took part. The experiments were made on a hundred volunteers, mostly aged between 18 and 25, only a few of them around 30. None of them had had influenza. Rather cautiously they proceeded to administer the pure culture of influenza bacillus into the nostrils of a few volunteers as a preliminary experiment. As this proved negative, they selected 19, had gave each of them a mixture of 13 different strains of the Pfeiffer bacillus, some obtained recently from the lungs in a necropsy, while others were old subcultures; but each of them had a different history. Suspensions of these organisms were sprayed with an atomizer into the nose and eyes and into the back of the throat during inspiration. Each subject received some billions of the organism, but none took sick. Next, they used the virus from cases of the disease and the details of obtaining it are given, as also the method of administration, some of it being swallowed. None of the men became sick. Injections of blood were also used, with the same negative result, as also the introducing of ten of the volunteers into a ward of the U. S. Naval Hospital at Chelsea, containing thirty beds, all occupied by influenza patients. Each volunteer had intimate contact with at least ten of the patients, inhaling the breath and receiving his cough directly into his face. The patients were in different stages of the disease and all the cases were fresh. None of the volunteers was taken ill. Experiments were also made at Portsmouth and at the Deer Island Training Stataion, with the same negative results. One of the officers, however, collected material from six supposedly incubation cases, in none of which did influenza develop; but he himself, who had escaped the disease elsewhere, came down with a clinical case. Rosenau thinks we should not draw positive conclusions, since there are many factors to be considered; their patients may have been nonsusceptible or immune. A similar experience was that of Dr. McCoy and Dr. Richey at Goat Island, San Francisco, who were also unable to produce the disease. There may be factors in the transmission that are not known. Rosenau says that perhaps, if we have learned anything by these experiments, it is that we are not sure we know anything about the disease.

TRANSPLANTATION OF THE URETER.

Perhaps the most pitiable condition that man can suffer is that due to new growths in the bladder, says W. E. Lower, Cleveland (Journal A. M. A., Aug. 2, 1919). In most cases, the supraphic drain cannot give relief, nor can large doses of opium. The only possible method is by preventing the stream of urine from passing through the bladder, and this can be done by transplanting the ureter into the loin or into some portion of the bowels, preferably the signoid or rectum, as near as possible to the bladder. If the transplantation is into the loin, some mechanical contrivance to catch the urine is needed, and this, as a rule, is unsatisfactory. On the other hand, if the ureter is transplanted into the

large intestine, the annoyance is less, as the spincter ani becomes adapted to the new condition and effectively controls the urine. The best technic for this operation, in suitable cases, is perhaps that of Coffey. "The operation is preferably performed in two stages, transplanting one ureter first and then waiting a sufficient time to be sure that the ureter is functioning in its new location, and to allow the sphincter ani to become adapted to the new condition, when the second ureter is transplanted. Preferably, the right ureter is transplanted first, as, if adhesions follow, as they often do, the rectum becomes more or less fixed and cannot so readily be drawn into the cut." In certain cases, a third operation for complete removal of the bladder may still better the condition and prolong the patient's life. He has performed this radical operation twice. In one case, the patient survived two and one-half years in comparative comfort. In the second case he lost track of the patient after six months, and has not been able to ascertain how long he survived. In both instances relief was immediate. In two other cases, the ureters were transplanted simply for relief, as the growth was so extensive that the more radical operation was impossible. The patients in both cases died within a short time, but relief had been obtained for the time being. If the patients present themselves early enough, the best results are possible. The division of the operation into two stages, or three, including the bladder extripation, divides the trauma of the single stage operation to the patient's advantage. The four cases are reported. Lower thinks that, with bladder extirpation, the possibility of a complete cure may be anticipated. In the first case, that in which the third operation was performed, the growth returned and, involving the intestine, carried the patient off. In the second case, the patient was comfortable and in good condition as long as heard from.

HYPERTENSION IN WOMEN.

Dr. Riesman, Philadelphia (Journal A. M. A., Aug. 2, 1919), remarks that the habitual use of the blood pressure test has surprised him with the frequency with which it has revealed hypertension in women. Most cases occur among a definite class of women, usually stout, heavy, undersized multiparae with no signs of syphilis, at the age of the menopause or just past it, of constipated habits, some suffering from intestinal indigestion. Up to a certain point, they show amazing tolerance of high blood pressure. The heart is usually enlarged, chiefly to the left. The arteries are soft, and even the retinal vessels seldom show involvement. The kidneys, so far as can be determined, are competent. This absence of gross renal or terial changes has led some writers to call this type of hypertensino "essential." A similar condition is sometimes seen in men, but in general it is less innocent. The points that stand out prominently in the etiology are multiple gestations, worry, constipation, flatulence and the menopause. Whatever the cause may be, whether of endocrine origin or toxic, the effect is an increased tonicity, gradually leading to a thickening of the vascular musculature. The inaugural symptoms are dizziness, tinnitus, dyspnea on effort, anginoid pains, palpation, gaseous distension and vasomotor disturbances. Though several of these symptoms may coexist, the disease is often monosymptomatic at first, and in a large proportion of instances the complaints seem to have no relation to the hyperten. The patients are usually sorid, practically always

obese; the area of cardiac and aortic dullness is increased; a systolic murmur in the aortic area, transmitted upward and into the clavicles, and a ringing aortic second sound are common findings. In the later stages, a soft systolic murmur can often be heard at the apex. The temporal vessels are not usually conspicuous, though they may be tortuous. The peripheral arteries are soft, in contrast to the blood pressure, and a slight rise of temperature. is almost constant. "The average age of the patient was 54. The youngest patient was 43, oldest 71. The average systolic pressure was 211; the average diastolic pressure, 105; the average pulse pressure, 106; the highest systolic pressure, 310; the highest diastolic pressure, 160, and the highest pulse pressure, 150." Of course, this is not the only type of hypertension in women. Chronic nephritis is a common cause, and cases in which the patients are less than 35 years old may generally be accredited to this cause and a worse prognosis be expected. There is also an arteioselerotic group, and the hypertension in exophthalmic goiter and acromegaly. Riesman mentions, however, another type, similar to the one described, of thryotoxic origin without goiter. While there is no positive proof of the thyroid cause, the symptoms suggest this origin; but, as against this supposition, iodids do not benefit, and may aggravate the condition. As regards prognosis, the essential hypertension may be called benign, but three accidents are possible and not uncommon. One is angina pectoris; another is apoplexy, usually left-sided, and the third, decompensation in the later stages. The treatment is practically avoidance of overinterference and regulation of diet, in quantity rather than quality, while drugs are of minor importance. The nitrites are not indicated in patients who do not suffer. Iodids may be used in small doses for long periods, and, lately, Riesman has had strikingly good results in lowering tension by the use of corpus luteum. In thyrotoxic cases, rest is of first importance, and tea and coffee should be forbidden. Everything must be done in all the types to encourage the patient to avoid worry.

NEUROLOGIC THERAPEUTICS.

Certain fads of neurologic therapeutics which had their day of popularity are noticed by C. K. Mills, Philadelphia (Journal A. M. A., Aug. 2, 1919). The first he mentions is the Perkins' tractors which, coming into public notice about the end of the eighteenth century, are now hardly remembered. But many years later, within the recollection of modern practitioners, the metallotherapy and metalloscopy of Burq obtained the quasi endorsemnet of eminent neurologists. A little later appeared the publications of Charcot and Richer, on hypnotism, which, as Mills says, belong in the same category as Murquism. He, himself, experimented with both, with the result of strengthening the views that he already held as to the importance of suggestion and counter-suggestion. The suspension treatment of tabes also interested the profession in the later part of the last century, and also received the quasi endorsement of Charcot and Giles de la Tourette of Paris, and was extensievly experimented with at the Salpetriere. It was tested and apparatus was devised for employing the method by eminent physicians in this country, but it soon passed into deserved oblivion. Mills describes his own experience in the surgical treatment of epilepsy. Very early in the practice he knew something of the efforts made on the basis of the old reflex hypothesis; children were circumcised, wo-

den underwent the operation of ovaritomy, nerves were resected, etc., to cure constitutional disorders which refused to yield to other methods. Since the facts of cerebral localization have been established, the excision of certain cerebral centers, apparently involved in the epileptic attack, was more or less performed, but paralysis seems to have been the most that was usually attained. This usually improved and would not have contraindicated operation if it had achieved its purpose of relieving the attacks. If epileptic attacks were sufficiently well observed it would be found, says Mills, that in nearly all cases such seizures begin with local spasm but this is overlooked. Of recent years, the surgeon has extended his efforts for the relief of epilepsy to the abdominal cavity, chiefly on the theory that the disorder is due to some form of intestinal toxemia, and some have gone so far as to advocate colectomy. While not expressing so positive an unfavorable opinion of these attempts, Mills says he cannot divest himself entirely of the opinion that the colon has a useful function. The opinions generally held in the profession at present, as to the effects of dental disease, seem to be considered by the author as also, to a certain extent, a medical fad. Another discredited set of operations are those of linear craniectomy for idiocy and imbecility. Neurologists and surgeons are prone to advise and undertake procedures, Mills, thinks, without due consideration of the principles that should underly them. Nerve stretching, which was rather popular a generation or more ago, also comes under his ban. Glandulartherapy is also mentioned, as well as glandular removal, both of which have had their day or are having it, and Abderhaldenism, as he terms is. He seems rather judiciously conservative as regards the beneficial effects.

THE THERAPY OF BUCAL CANCER.

Connected with the subject of the therapy of bucal cancer are two great factors. The first is that of early diagnosis—a factor of paramount importance in any case, but in none more so than in cancer of the bucal cavity. There is little excuse for failure in this respect, yet it is of frqeuent occurrence. There still are physicians who profess a great "fear of the knife," and are willing to carry patients for weeks and months until the disease has made such progress that the use of a knife does, indeed, become a fearsome thing. There is a second group of men, intelligent and honest, who, because the patient gives a history of chancre or a positive blood Wasserman reaction, forget the possibility of cancer in the presence of an ulcerating sore on the tongue and lose precious time in a vain endeavor to cure the lesion with arsphenamin and mercury. The second factor to be considered is the exceedingly rich lymphatic supply of the mouth and neck. This is important for two reasons: first, the possibility of early, deep-seated metastases, and second, the difficulty which it adds to efficient use of the roentgen ray and radium. Every one is familiar with patients in whom clean excision of a cancer of the mouth associated with persistent postoperative raying of the neck by competent roentgenographers has nevertheless been followed by the early appearance of deep cervical metastases. Since the roentgen ray exerts its influence in limiting cancer metastases by causing proliferation of connective tissues and of the endothelial cells of lymphatics to an extent sufficient to obliterate the

lymph channels and tissue spaces, and also by a direct inhibitory effect on the cancer cells, it is obvious that, to a large extent, the richer and the more deeply situated the lympatic supply, the less effective will be treatment by roentgen ray. This tendency of buccal cancer to cervical metastasis has led to the ultraradical, so-called "block dissection" for its cure, which consists in an attempt to remove the cancer and the lymphatic bearing structures of the neck en massee. High morbidity and mortality from infection, and failure to eradicate the tumor by this method, have caused many surgeons to go to the other extreme and to enotent themselves with local excision with the actual cautery or some form of high frequency current, and ligation of the external carotid artery, thus attempting to minimize recurrence by starving the tumor, and such limitation of metastases in the neck as may be afforded by the roentgen ray. While this method avoid the danger of infection to a large extent, it also fails to cure. Much has been claimed for radium in the treatment of cancer of the tongue; but while its usefulness as an adjunct to other meaures is generally admitted, its dependability when applied by present methods to any but the most superficial lesions is yet to be demonstrated. In the management of buccal cancer we are, therefore, brought face to face with the one great, outstanding fact in present-day cancer therapy, namely, the utter necessity of early diagnosis, without which invasion of the rich lymphatic field of the face and neck places an enormous handicap on curative treatment.—Journal A. M. A., Aug. 2, 1919.

HOW TO CHOOSE A HOSPITAL

Whether a hospital is a Class A institution or a Class D institution will be information that patients may learn for themselves before choosing a hospital in the near future, if the occasion requires.

The shortcomings of hospitals have been scrutinized by supintendents and trustees of institutions all over the country with the result that a demand has arisen for standardization. A. R. Warner, M.D., superintendent of the Lakeside Hospital, Cleveland, Ohio, declares that the defects of hospital management and administration are now fairly well known to those directly interested. He writes on hospital standards in the current issue of The Modern Hospital, Chicago, Ill.

The organization of some hospitals has been more highly developed than others. The service of some surpasses that of other institutions, while in many hospitals the facilities for diagnosis and treatment excel.

Standardization becomes a necessity, Dr. Warner asserts, because the public will not tolerate the deficiencies if they can be recognized. The fact that superintendents and hospital directors are aware of defects imposes upon them the duty of promoting higher standards in all that pertains to the care and treatment of the sick. Dr. Warner voices a warning that the hospitals themselves must accomplish this standardization before the public at large learns of some of the existing defects of various institutions.

SOLVING THE FAMILY'S SICKNESS PROBLEMS.

Health insurance offers the solution of problems of family finance during sickness, and the trend of the times indicates that health insurance will be

adopted as a social policy in every state, according to the statement of John A. Lapp, formerly director of the Ohio Health and Old Age Insurance Commission, in an address before the Ohio Hospital Association.

Physicians, public men, and hospitals, are called upon to see to the organization and forms of legislation which are being created to embody the principles of health insurance, and that proper plans for medical service shall be assured, says The Modern Hospital, Chicago, Ill., in its report of the Association's fifth annual meeting. The adoption of legislation to establish health insurance on the same footing as the workman's compensation was advocated by Mr. Lapp, who is the editor of Modern Medicine, and by Dr. Otto P. Geier, of Cincinnati, O.

Sickness is a tremendous burden upon the people as a whole and it falls with crushing force upon those who happen to be sick, it was declared. If sickness were evenly distributed, there would be no need of health insurance. Each person could stand the nine days of sickness which is the average for all people, but sickness falls unevenly. Twenty per cent. of the workers in industry suffer a disable sickness each year lasting more than seven days. That means in about 400,000 workers, 65 per cent. of them, or 260,000, are sick for less than thirty days; 19.7 per cent. are sick from four to eight weeks; 6 per cent. or 24,000, are sick from eight to twelve weeks; 3 per cent. or 12,000, are sick for more than six months; while 1.3 per cent. or 5,200 are sick for more than a year.

These figures indicate the need of health insurance. The worker who suffers more than four weeks of sickness is bound to be economically handicapped and large numbers are bound to be overwhelmed. Dependency and destitution follow with absolute certainty. Insurance would distribute the risk by the creation of the fund through payments by employer and employee, from which a part of the losses of wages would be paid and the entire medical care provided.

Health insurance is simply the creation of a human depreciation fund in the same manner as business now provides a depreciation fund for material things of the plant.

MUSIC SAVES SHELL-SHOCKED SOLDIER.

A soldier boy from the mountain districts of the South was slowly dying in a United States army hospital. He had gone from his mountain environment to the battle lines of France and then had been returned to this country before the end of the war in a pitiable condition of suffering due to shell shock.

The young man's nervous excitability was extreme in his hours of greatest suffering. But in his weakened condition, his excitability gradually was diminished until he made only a feeble response to suggestions or instructions from his attendants.

One day a Red Cross field worker brought in a trio of mountain boys into his ward with a banjo and guitar to entertain the patients. The dying soldier listened and tried to raise himself. It was the first interest he had displayed in things around him for many days. The lilt of the merry folk song seemed to fan the flickering life spark that had gone beyond the reach of material aids.

The banjo players came again. The boy's interest grew stronger, and he confided to the nurse that he "useter pick one of them" and that he would like to try it now. A start toward recovery began when the soldier took hold of the banjo and fingered the

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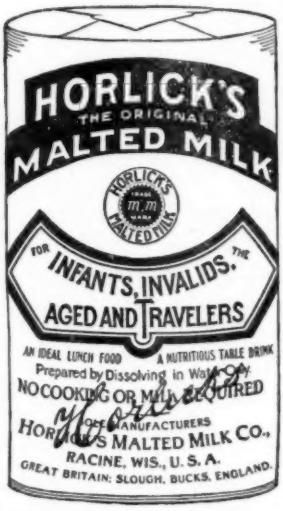

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strings. Music had saved his life. The psychological action seemed to harmonize the shattered mental currents in the mind of the young man who so nearly sacrificed his life from shell shock.

The story of the soldier whose life was saved by music is told by A. W. Harting of the American Red Cross, New York City, in the June issue of The Modern Hospital, Chicago, Ill. The curative effect of music in the treatment of nervous disorders, and its value in adding to the contentment of convalescents in the army hospitals, declares Mr. Harting, has been indispensable in the rehabilitation program of the government for disabled soldiers.

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SETTLEMENTS MADE MONTHLY

DR. H. A DUEMLING, Fort Wayne, Indiana, says: "I unhesitatingly recommend your Collection Service to my co-workers in the Medical Fraternity." (Grand total collections made for Dr. Duemling to August 20, 1919, amounts to $5,464.27.

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